

**WHAT IS CLAIMED IS:**

1. A complex immuno-gene medical composition for inhibiting tumor cells, which medical composition at least comprises a therapeutic effective amount of plasmid comprising a DNA sequence (SEQ ID NO: 1) expressing IL-6 and a therapeutic effective amount of plasmid comprising a DNA sequence (SEQ ID NO: 2) expressing IL-15.
2. The medical composition of claim 1, wherein the tumor cell expresses low or no MHC.
3. The medical composition of claim 1, wherein the tumor cell produces TGF- $\beta$ .
4. The medical composition of claim 1, wherein the composition antagonizes PGF- $\beta$  inhibiting NK cells with IL-6 and activates NK cells to enhance immune system with IL-15 in host body to inhibit growth of tumor cells.
5. The medical composition of claim 2, wherein the tumor is primary breast carcinoma, advanced renal cell carcinoma, melanoma, prostate cancer, lung carcinoma, other tumor sources from colon, bladder, skin, endometrium, poultry T lymphoma, or CTVT.
6. The medical composition of claim 3, wherein the tumor is mammary tumor, thyreoglandular cancer, hepatocellular carcinoma or Meth A tumor.
7. A method for inhibiting growth of tumor cells with complex immuno-gene composition, which method comprises administrating a therapeutic effective amount of plasmid comprising a DNA sequence (SEQ ID NO: 1) expressing IL-6 and a therapeutic effective amount of plasmid comprising a DNA sequence (SEQ ID NO: 2) expressing IL-15 to host to activate the NK cells and enhance cytotoxicity of the NK cells.

8. The method of claim 7, wherein the tumor cell expresses low or no MHC.
9. The method of claim 7, wherein the tumor cell produces TGF- $\beta$ .
10. The method of claim 9, wherein the tumor is primary breast carcinoma, advanced renal cell carcinoma, melanoma, prostate cancer, lung carcinoma, other tumor sources from colon, bladder, skin, endometrium, poultry T lymphoma, or CTVT.
11. The method of claim 10, wherein the tumor is mammary tumor, thyreoglandular cancer, hepatocellular carcinoma or Meth A tumor.
12. The method of claim 7, wherein the plasmids are administrated by non-viral vector delivery or viral vector delivery.
13. The method of claim 12, wherein the plasmids are administrated by plasmid transformation, particle gun, or muscle electroporation *in vivo*.
14. The method of claim 12, wherein the viral vector is adenoviral vector, adenoviral associated vector, herpes viral vector, poxviral vector, or retroviral vector.
15. A complex immuno-gene medical composition for inhibiting tumor cells, which medical composition at least comprises a therapeutic effective amount of IL-6 and a therapeutic effective amount of IL-15.
16. A complex immuno-gene medical composition for inhibiting tumor cells, which medical composition at least comprises a therapeutic effective amount of vector comprising a DNA sequence (SEQ ID NO: 1) expressing IL-6 and a therapeutic effective amount of vector comprising a DNA sequence (SEQ ID NO: 2) expressing IL-15.